Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1-87. (CANCELLED)

88. (CURRENTLY AMENDED) A method of coupling a disulfide bridge containing protein or peptide to a carrier comprising the following steps:

a) irradiating ~~the~~ a protein or peptide comprising one or more aromatic amino acid residue within 10 angstrom (Å) of a disulfide bridge with light of a wavelength that excites said one or more aromatic amino acid residues to create a thiol group in the protein or peptide by disulfide bridge disruption; and

b) incubating the irradiated protein or peptide with a carrier comprising Au or a thiol-binding ligand ~~capable of binding a thiol group and thereby obtaining~~to obtain a coupling of said irradiated protein or peptide to said carrier,

or

a) incubating ~~the~~ a protein or peptide comprising one or more aromatic amino acid residue within 10 angstrom (Å) of a disulfide bridge with a carrier comprising Au or a thiol-binding ligand~~capable of binding a thiol group~~; and

b) irradiating the protein or peptide in the presence of said carrier with light of a wavelength that excites said one or more aromatic amino acid residues to create a thiol group in the protein or peptide by disulfide bridge disruption and thereby obtain~~ing~~ a coupling of said peptide or protein to said carrier,

wherein the carrier is an insoluble support ~~whereon~~ and more than one disulfide-bridge-containing protein or peptide ~~are~~is coupled to said carrier, each protein or peptide being coupled to said carrier through said created thiol group~~; or~~.

89. (CURRENTLY AMENDED) A method according to claim ~~32~~ 88, wherein the coupling is limited to one or more focal point(s) of illumination.

90. (CURRENTLY AMENDED) A method according to claim ~~32~~ 89, wherein the focal point is 1 micrometer of less.

91. (PREVIOUSLY PRESENTED) A method according to claim 88, wherein said support is an electronic chip, slide, wafer, particle, resin, well, tube, or membrane.

92. (CANCELLED)

93. (NEW) A method according to claim 88, wherein the protein or peptide comprises more than one disulfide bridge.

94. (NEW) A method according to claim 88, wherein said irradiation step comprises light of a wavelength that excites one specific aromatic amino acid.

95. (NEW) A method according to claim 94, wherein said specific aromatic amino acid is selected from tryptophan, tyrosine, and phenylalanine.

96. (NEW) A method according to claim 95, wherein the irradiation is performed by multi-photon excitation.

97. (NEW) A method according to claim 95, wherein said specific irradiation comprises light with a wavelength of about 295nm, 275nm, or 254nm.

98. (NEW) A method according to claim 95, wherein said specific aromatic amino acid is tryptophan.

99. (NEW) A method according to claim 97, wherein the wavelength is about 295nm.

100. (NEW) A method according to claim 94, further comprising the steps of:

a) verifying one or more disulfide bridges in said protein or peptide;

b) identifying one or more aromatic amino acid residues being a spatial neighbour of said one or more disulfide bridges, for the transfer of excitation energy from said one or more aromatic amino acid to said one or more disulfide bridges; and

c) selecting a wavelength which specifically excites one or more of said aromatic amino acid residues, thereby disrupting one or more of said disulfide bonds.

101. (NEW) A method according to claim 100, wherein the aromatic amino acid residue is within 10 angstrom (Å) of the disulfide bridge.

102. (NEW) A method according to claim 101, wherein the plane of the dipole of the side-chain of the aromatic amino acid is not orthogonal to the plane of the absorbing dipole of the disulfide bridge.

103. (NEW) A method according to claim 100, wherein the frequency of occurrence of amidic amino acid residues (Asn, Gln) as well as short aliphatic amino acid residues (Gly, Ala, Val) and/or long aliphatic amino acid residues (Leu, Ile) amino acid residues located within an 8Å radius of the indole ring of said aromatic amino acid residue is at least 1 fold greater relative to the frequency of occurrence in proteins in general, and the frequency of occurrence of charged amino acids (His, Lys, Arg)(Asp, Glu) and proline residues located within an 8Å radius of the indole ring of said aromatic amino acid residue is at least 1 fold less relative to the frequency of occurrence in proteins in general.

104. (NEW) A method according to claim 88, wherein said protein or peptide is irradiated in the presence of a free aromatic amino acid.

105. (NEW) A method according to claim 88, wherein said coupling is an immobilization on said support.

106. (NEW) A method according to claim 105, wherein said immobilization is spatially controlled.

107. (NEW) A method according to claim 105, wherein said support is a derivatized support capable of binding a thiol group.

108. (NEW) A method according to claim 107, wherein said support comprises a thiol group or a disulfide bridge.

109. (NEW) A method according to claim 108, wherein the support comprises a spacer.

110. (NEW) A method according to claim 88, wherein the coupled protein or peptide can be released from the carrier by irradiating the coupled protein or peptide to create a thiol group in the protein or peptide by disulfide bridge disruption.

111. (NEW) A method according to claim 107, wherein said support comprises gold.

112. (NEW) The method according to claim 96, wherein said irradiation is by two-photon excitation.